

IN THE CLAIMS

1. (currently amended) An isolated DNA encoding a protein having neoxanthin cleavage activity, wherein said protein is selected from the group consisting of:

- (a) a protein comprising the amino acid sequence of SEQ ID NO:6;
- (b) a protein encoded by a polynucleotide that hybridizes under highly stringent conditions with a DNA comprising a nucleotide sequence of SEQ ID NO:5, wherein said highly stringent conditions are: hybridization in a solution containing 30% formamide, 6X SSC, 5X Denhardt's solution, and 100 μ g/ml denatured salmon sperm DNA at 37°C and washing in 0.1X SSC, 0.1% SDS at 60°C for 15 min; and

~~(c) a protein comprising an amino acid sequence of SEQ ID NO:6 having up to ten conservative amino acid substitutions; and~~

[[~~(d)~~]](c) a protein comprising an amino acid sequence that is at least 95% identical to the sequence set forth in SEQ ID NO:6.

Claims 2-4 (canceled)

5. (previously presented) A transformed plant cell comprising the isolated DNA of claim 1.

6. (previously presented) A transgenic plant comprising the transformed plant cell of claim 5.

7. (currently amended) A transgenic plant which is an offspring or a clone of the transgenic plant of claim 6, wherein plant cells from said offspring or clone also contain the isolated DNA which encodes a protein having neoxanthin cleavage activity and said protein is selected from the group consisting of:

- (a) a protein comprising the amino acid sequence of SEQ ID NO:6;

(b) a protein encoded by a polynucleotide that hybridizes under highly stringent conditions with a DNA comprising a nucleotide sequence of SEQ ID NO:5, wherein said highly stringent conditions are: hybridization in a solution containing 30% formamide, 6X SSC, 5X Denhardt's solution, and 100 μ g/ml denatured salmon sperm DNA at 37°C and washing in 0.1X SSC, 0.1% SDS at 60°C for 15 min; and

~~(c) a protein comprising the amino acid sequence of SEQ ID NO:6 having up to ten conservative amino acid substitutions; and~~

[[~~(d)~~](c) a protein comprising an amino acid sequence that is at least 95% identical to the sequence set forth in SEQ ID NO:6.

8. (currently amended) The transgenic plant of claim 6, wherein the expression level of the isolated DNA encoding a protein having neoxanthin cleavage activity is increased ~~or decreased~~ compared to the expression level in the wild type of said transgenic plant.

9. (currently amended) The transgenic plant of claim 6, wherein the amount of abscisic acid is increased ~~or decreased~~ compared to the wild type of said transgenic plant.

10. (currently amended) The transgenic plant of claim 6, wherein ~~stress~~ tolerance is increased ~~or decreased~~ compared to the wild type of said transgenic plant.

11. (previously presented) A propagation material for the transgenic plant of claim 6.

12. (currently amended) A vector comprising the DNA of claim 1.

13. (previously presented) A method for producing the transgenic plant comprising the isolated DNA of claim 1, comprising the steps of introducing said isolated DNA into a plant cell and regenerating a plant from the plant cell.

14. (previously presented) A method for increasing stress tolerance in a plant, wherein said method comprises:

- (a) introducing an isolated DNA encoding a protein having neoxanthin cleavage activity into a plant cell obtained from said plant;
- (b) expressing the isolated DNA in said plant cell; and
- (c) producing a plant from the plant cell that has increased stress tolerance.

Claims 15-16 (canceled)

17. (previously presented) The isolated DNA of claim 1, wherein said isolated DNA encodes a protein that is at least 99% identical to the sequence set forth in SEQ ID NO:6.

18. (previously presented) The isolated DNA of claim 1, wherein said isolated DNA encodes a protein that is identical to the sequence set forth in SEQ ID NO:6.

19. (currently amended) The method according to claim 14, wherein the isolated DNA encodes a protein having neoxanthin cleavage activity and said protein is selected from the group consisting of:

- (a) a protein comprising the amino acid sequence of SEQ ID NO:6;
- (b) a protein encoded by a polynucleotide that hybridizes under highly stringent conditions with a DNA comprising a nucleotide sequence of SEQ ID NO:5, wherein said highly stringent conditions are: hybridization in a solution containing 30% formamide, 6X SSC, 5X Denhardt's solution, and 100 μ g/ml denatured salmon sperm DNA at 37°C and washing in 0.1X SSC, 0.1% SDS at 60°C for 15 min; and
- ~~(c) a protein comprising the amino acid sequence of SEQ ID NO:6 having up to ten conservative amino acid substitutions; and~~
- [[d]](c) a protein comprising an amino acid sequence that is at least 95% identical to the sequence set forth in SEQ ID NO:6.

20. (previously presented) The method according to claim 19, wherein said stress is drought stress.

Claims 21-23 (canceled)